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AUTHOR Peterson, Marla
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ABSTRACT

Fifteen multi-media packages of instructional materials (OCCUPACS) were developed in a laboratory school setting. Prototype materials which feature many types of concrete objects and manipulatives were included in the packages. The objectives of the presentation were to: (1) demonstrate how child development data and career development theory have been translated into instructional materials for K-6 children, (2) describe how the ideas of children were used in the development of the materials, and (3) discuss how instructional materials can be designed so that the materials help reduce the teacher anxiety that is associated with the introduction of new instructional approaches. (Author)

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A MULTI-MEDIA SYSTEM

FOR K-6 CAREER EDUCATION PROGRAMS

by

Marla Peterson, Director
Enrichment of Teacher and Counselor Competencies
in Career Education Project
The Center for Educational Studies
School of Education
Eastern Illinois University
Charleston, Illinois 61920

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The Problem

Within the past several years career education in the elementary school has received much impetus from various local, state, and federal agencies. In addition to determining the "content" of career education, school personnel have also been faced with a lack of materials and methods for implementing career education programs in the elementary school.

In view of the paucity of instructional materials that could be used for aiding students in such areas as attitudes and appreciations, career coping behaviors, career information, decision making, lifestyle, self development, etc., the Illinois Division of Vocational and Technical Education funded a project that would focus on developing career education materials for the elementary school. The project was conducted by The Center for Educational Studies, Eastern Illinois University. Project headquarters were located in Buzzard Laboratory School at the University.

The project, which subsequently came to be known as the OCCUPAC Project, began in August of 1970 and terminated on June 30, 1972. The primary purpose of the project was to develop packages of career education materials that are appropriate for use in Grades K-6. Fifteen OCCUPACS were developed and tested in fourteen school systems in Illinois. The OCCUPACS contained slides, tapes, equipment and materials used in various occupations, decision-making simulation activities, and manipulatives of all kinds from the real WORLD OF WORK. They are based upon the premise that personal, social, and intellectual growth and development take place through a sequence of concrete experiences which are followed by abstractions.

It is always difficult to test instructional materials on an experimental design basis. Thus, both evaluation design data and research design data were

combined to form an overall evaluation of the OCCUPACS.

The staff felt that formative evaluation procedures are often sublimated to summative evaluation procedures. Therefore, at the outset of the project steps were taken to insure that formative evaluation data was collected and used to improve the product before it reached the summative evaluation stage.

Teachers, of course, served as one source of formative evaluation data. Scripts for tapes were submitted to at least three teachers at each grade level for their critical review of the tapes. Perhaps the most valuable source of formative evaluation data was obtained from students. The contents of the OCCUPACS are such that segments of an OCCUPAC sometimes had to be tested before subsequent segments of an OCCUPAC could be developed. Children at Buzzard Laboratory School were observed by the project staff as they attempted an OCCUPAC activity. The children made suggestions for improvements in taped directions and for the manipulative materials.

What sometimes seems very logical to an adult may seem very illogical to a child. An example of this was clearly illustrated when children tested a "sewing" book which was correlated with taped instructions. The sewing book was designed so that two tapes accompanied the book. It seemed logical to the developers that a blank page should be placed in the sewing book to separate Tape 1 from Tape 2. First graders who evaluated the materials objected strenuously to the blank page and requested that the blank page be removed.

The summative evaluation process involved several different data gathering procedures. Data on Teacher Beliefs About Career Education as measured by the Career Education Information Inventory and data on cognitive changes in student behavior were subjected to statistical analysis. Evaluation data was gathered on affective changes in the student through use of interviews made by project staff members and observations made by classroom teachers.

It is the data that was gathered on Teacher Beliefs About Career Education that will be presented in this paper. The project staff felt that instructional materials for students can be designed for an emerging area such as career education that will not only aid the student but will assist the teacher in understanding the new area and help reduce the teacher anxiety that may occur when new school programs are introduced. This problem will be more fully examined in the remainder of this paper.

Objectives and Procedures

The objective of this micro study of Teacher Beliefs About Career Education within a larger macro evaluation design was to determine whether or not student materials could be designed for an emerging area of education that would elicit positive attitudes from teachers about the emerging area.

Pilot testing of the OCCUPACS took place in Buzzard Laboratory School, Eastern Illinois University, Charleston, Illinois. After OCCUPACS had gone through the pilot testing stage, they were then tested in fourteen public school settings in three separate testing flights of equal length. Four systems tested during Flight 1; four systems tested during Flight 2; and six systems tested during Flight 3. The fourteen systems that participated in the field testing were selected because they represented a cross section of environments--from rural to urban and from small town to suburb and inner city.

During Flight 3, four treatment groups were established at five of the sites:

Teacher	OCCUPACS	Enrichment
A	X	
B	X	X
C		X
D		

In other words, Teacher A used OCCUPACS only; Teacher B used OCCUPACS plus enrichment activities relating to the OCCUPAC; Teacher C used enrichment activities only and these enrichment activities were the same enrichment activities as used by Teacher B; and Teacher D served as the control group. At three sites each teacher was located in a different building; at two rural sites two of the teachers were located in the same building. Contamination from one treatment group to another could have occurred at the rural sites.

The five sites did represent a cross section of environments: System 1 was a middleclass suburban Chicago system; System 2 was a suburban Chicago system with a melting pot of various socio-economic classes; Systems 3 and 4 were rural systems, and System 5 was a downstate system that was a melting pot of various socio-economic classes.

In each of the five systems, treatment groups were established in one grade level selected from K-3 and one grade level selected from 4-6. The grade levels used at each site were:

System 1 - 2nd grade (Electrician) and 6th grade (Chef/Cook)

System 2 - 2nd grade (Licensed Practical Nurse) and 4th grade (Dental Assistant)

System 3 - 3rd grade (Industrial Sewing Machine Operator) and 4th grade (Sales Clerk)

System 4 - 2nd grade (Licensed Practical Nurse) and 5th grade (Carpenter)

System 5 - 1st grade (Electrician) and 6th grade (Chef/Cook)

It was impossible to assign the same OCCUPAC to each of the five sites. It is possible that this factor influenced the results. However, when 6th grade results from System 1 were compared with 6th grade results from System 5 (They both used the same OCCUPAC) no significant differences were found between the groups on cognitive or attitudinal behaviors.

Fourteen items from the Kentucky Research Coordinating Unit "Career Education Information Inventory" (See Appendix A) were used on a pretest-posttest basis to gather data on teacher attitudes toward career education. The fourteen items were validated by administering the items to three groups of teachers prior to use with the treatment groups. The reliability score on the three "pretests" was .89.

The Career Education Information Inventory had a Likert-type answer format with five response alternatives. The respondents were asked to choose 1 of 5 answers for each item: (1) Strongly Agree, (2) Agree, (3) Undecided, (4) Disagree or (5) Strongly Disagree. A directional answer was established for each item. The criteria for selecting the directional answer were based on whether a panel of experts felt the "Strongly Agree" or whether the "Strongly Disagree" answer was the more appropriate response for the item. The more appropriate response was given a weight of 5. Directional answers for the fourteen items are shown in Appendix A. The directional answer for each item is underscored.

Chi square was used to test for significant differences (at .05 level) between the various treatment groups on teacher-held beliefs about career education.

Hypotheses and Findings Related to the Hypotheses

H_1: There is no significant difference in beliefs about career education between elementary school teachers who use OCCUPACS as the only means for providing career education and elementary school teachers who use OCCUPACS and other career education enrichment activities. When these two groups were compared there was no significant difference. Thus H_1 could not be rejected.

H_2: There is no significant difference in beliefs about career education between elementary school teachers who use OCCUPACS as the only means for providing career education and elementary school teachers who use other career education enrichment activities only. When these two groups were compared there was a significant difference at the .05 level with those teachers who used OCCUPACS exhibiting more positive beliefs about career education. Thus H_2 was rejected.

H_3: There is no significant difference in beliefs about career education between elementary school teachers who use OCCUPACS as the only means for providing career education and elementary school teachers who provide no career education activities. When these two groups were compared there was a significant difference at the .05 level with those teachers who used OCCUPACS exhibiting more positive beliefs about career education. It should be noted that the greatest significant difference among treatment groups was shown by these two groups. Thus H_3 was rejected.

H_4: There is no significant difference in beliefs about career education between elementary school teachers who use OCCUPACS and other career education enrichment activities and elementary school teachers who use other career education enrichment activities only. When these two groups were compared there was a significant difference at the .05 level with those teachers who used OCCUPACS and other career education enrichment activities exhibiting more positive beliefs about career education. Thus H_4 was rejected.

H_5: There is no significant difference in beliefs about career education between elementary school teachers who use OCCUPACS and other career education enrichment activities and elementary school teachers who provide no career education activities. When these two groups were compared there was no significant difference. Thus H_5 could not be rejected. It should be noted, however, that the chi square value for these comparisons was 3.70 and 3.91 was needed for rejection. Thus H_5 came very close to being rejected.

H_6: There is no significant difference in beliefs about career education between elementary school teachers who use other career education enrichment activities only and elementary school teachers who provide no career education activities. When these two groups were compared there was no significant difference. Thus H_6 could not be rejected. It should be noted, however, that the chi square value for these comparisons was 3.85 and 3.91 was needed for rejection. Thus H_6 came very close to being rejected.

Conclusions

A teachers (teachers who used OCCUPACS only) and B teachers (teachers who used OCCUPACS + enrichment activities) did not differ significantly. However, both groups had more positive beliefs about career education after they had used the OCCUPACS. Both A and B teachers differed significantly with C teachers (teachers who used enrichment activities only) with A and B teachers showing more positive

beliefs about career education than C teachers. The highest significant difference was shown between A and D teachers (teachers who used no career education activities). A teachers showed decidedly more positive attitudes toward career education than D teachers.

Both B teachers and C teachers came close to showing that they possessed more positive attitudes toward career education than D teachers. In all cases those teachers who participated in some form of career education activity showed more positive attitudes toward career education than teachers who did not participate in career education activities. Teachers who used OCCUPACS only showed significant gain over both C and D teachers; teachers who used OCCUPACS + enrichment showed gain over C and came close to showing gains over D; teachers who used enrichment activities only came close to showing gains over D.

The above findings seem to indicate that OCCUPACS do, indeed, elicit positive feelings from teachers about career education. One of the objectives for designing a self-contained package of materials is that, hopefully, some of the teacher anxiety which is generally shown with the introduction of new curricular programs will be reduced. Evidently, this objective has been accomplished.

APPENDIX A

DIRECTIONAL ANSWERS
FOR
FOURTEEN ITEMS ON CAREER EDUCATION INFORMATION INVENTORY

	Item	Directional Answers				
3.	The focus of the academic disciplines should be related to the career plans of each student.	5 SA	4 A	3 U	2 D	1 SD
8.	Most school curricula should be reoriented to place emphasis on career education.	5 SA	4 A	3 U	2 D	1 SD
13.	Career education should be integrated into the regular curriculum.	5 SA	4 A	3 U	2 D	1 SD
15.	The world of work should be the organizing center for the curriculum in the elementary school.	5 SA	4 A	3 U	2 D	1 SD
31.	The choice of an occupation or profession is one of the most important decisions a person makes in his lifetime.	5 SA	4 A	3 U	2 D	1 SD
34.	Students presently have sufficient orientation to the possibilities in the world of work to make sound career decisions.	1 SA	2 A	3 U	4 D	5 SD
37.	A career education program should involve real life experiences.	5 SA	4 A	3 U	2 D	1 SD
38.	"Hands on" experiences are essential to a good career education program.	5 SA	4 A	3 U	2 D	1 SD
47.	The primary conveyor of career information should be the teacher.	5 SA	4 A	3 U	2 D	1 SD
51.	Career education for girls should center on secretarial skills, nursing, and teaching.	1 SA	2 A	3 U	4 D	5 SD
53.	Career education should be concerned with developing a positive self-image for each student.	5 SA	4 A	3 U	2 D	1 SD
56.	Career education should be only for those students who are not able to succeed in an academic program.	1 SA	2 A	3 U	4 D	5 SD

Item	Directional Answers
65. Career education should help students develop positive attitudes toward work.	5 4 3 2 1 SA A U D SD
77. The educational program should provide students with experiences which show the relationship between subject matter taught in school and its use in the world of work.	5 4 3 2 1 SA A U D SD